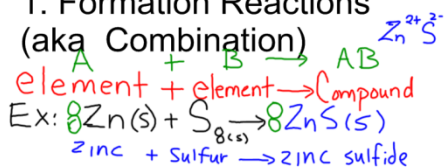


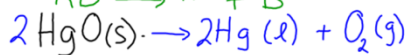
Types OF Chemical Reactions

1. Formation Reactions

(aka Combination)



2. Simple Decomposition



Mercury(II) oxide \rightarrow mercury + oxygen

p 331 13, 14

p 332 15, 16

Do p 331 #13, 14 (Not necessary to balance yet)
 and p 332 # 15, 16 (Not necessary to balance yet)

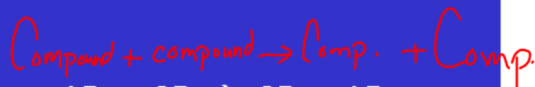
Single Replacement Reactions



Or



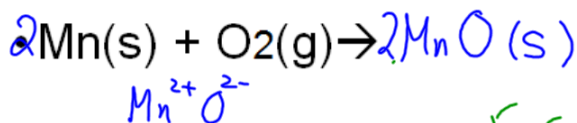
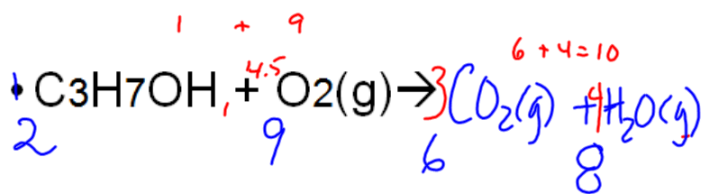
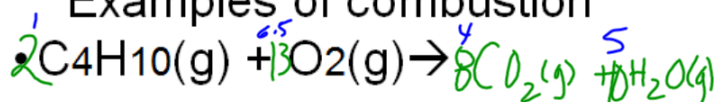
Double Replacement Reactions



Common Oxides

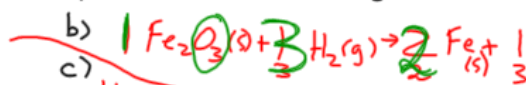
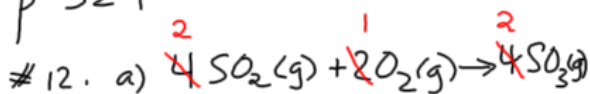
Substance Burning	Common Oxide(s)
carbon	$\text{CO}_2(\text{g})$
Hydrogen	$\text{H}_2\text{O}(\text{g})$
Sulfur	$\text{SO}_2(\text{g})$
Nitrogen	$\text{NO}_2(\text{g})$
Metal Pb^{2+} Mn^{2+} V^{5+}	$\text{PbO}(\text{s})$, $\text{MnO}(\text{s})$
Methane $\text{CH}_4(\text{g})$	$\text{CO}_2(\text{g})$, $\text{H}_2\text{O}(\text{g})$, $\text{V}_2\text{O}_5(\text{s})$
Propane $\text{C}_3\text{H}_8(\text{g})$	$\text{CO}_2(\text{g})$, $\text{H}_2\text{O}(\text{g})$
Ethanol $\text{C}_2\text{H}_5\text{OH}(\text{l})$	$\text{CO}_2(\text{g})$, $\text{H}_2\text{O}(\text{g})$

Examples of combustion

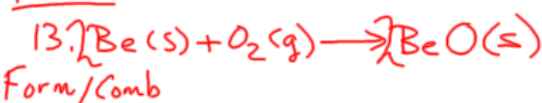
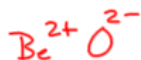


For Thurs
p 337 20, 21

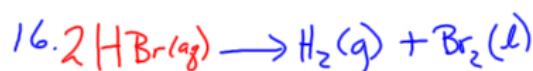
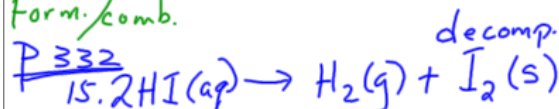
P 329



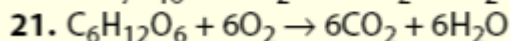
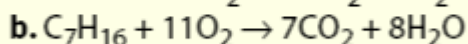
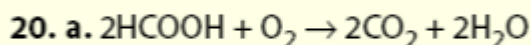
P 331



Form/Comb.



Practice Problems Answers



3. Sealed flask 392g of $\text{Al}(\text{OH})_3$

a) mol $n = 5.02 \text{ mol}$

b) $5.02 \text{ mol} \times 3 \times 1.01 \text{ g/mol}$

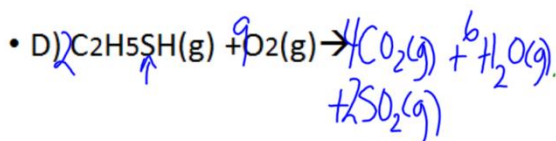
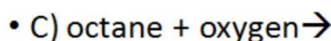
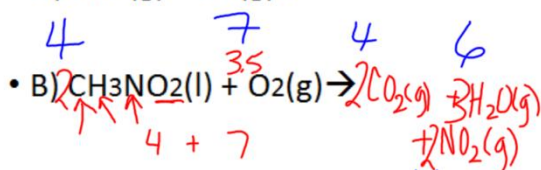
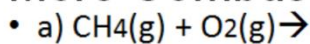
c) mass of H 15.21 g

d) mol of O 15.06 mol

e) atoms of Al $3.02 \times 10^{24} \text{ atoms}$

f) total # of atoms $2.12 \times 10^{25} \text{ atoms}$

More Combustion Practise



How to recognize which type?

● Look at the **reactants**:

E + E = Combination *synthesis / formation*

C = Decomposition

E + C = Single replacement

C + C = Double replacement

C_xH_y or $C_xH_y OH$ + $O_2 \rightarrow$ Combustion

note: E means element C
means compound